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alabe n. sp. (n. sp. & Madagascar congeners restricted to rain-forest) 128–132; *Brevoortia tyrannus, Harengula jaguana, Anchoa mitchilli* (ecol. signif. of diff. types sensory devel.) 133–144; *Lacerta schreiberi* (egg # & size not correl., each rel. to environ. factors) 145–150; *Cyprinodon variegatus* (low salin. aff. growth a reprod.) 235–239; *Emoia (cyanura, impar)* (microhab. diffs. btwn. cryptic spp.) 247–249; *Bitis caudalis* (repro., diet, body size & shape diffs. btwn. habs.) 391–401; *Hybognathus (amarus, placitus), Macrhybopsis aestivalis, Notropis (girardi, jemezanus, simus pecosensis, stramineus)* (reprod. strat. rel. to popn. declines in dammed rivers) 559–569; *Neusticurus (ecpleopus, juruazensis)* (subtle ecol. diffs. btwn. sympat. rainforest spp.) 570–582; *Alligator mississippiensis* (microsat. loci useful in reprod. ecol.) 591–601; *Japalura (luei* n. sp., *brevipes, makii)* (ecol. notes, n. sp. diffs. from congeners) 649–656; Loricariidae, Scoloplacidae (ecol. rel. to digest. tract modifs. for air-breathing) 663–675; *Gopherus agassizii* (gender breeding asynchr., long-term sperm storage in females) 702–705; *Oncorhynchus (gorbuscha, tshawytscha, gorbuscha* × *tshawytscha)* (repro. ecol. explan. for hybrid. btwn. 2 introduced spp.) 706–714; *Petrocephalus catostoma* (persist in hypoxic habs., high hypoxia toler.) 762–768; *Anolis carolinensis* (ontog. of microhab. use rel. to ecomorph. class.) 774–779; *Psammodromus algirus* (seas. & ontog. microhab. shifts) 780–786; *Xenopus laevis* (terrest. pred. redefines niche) 787–791; *Gasterosteus aculeatus* (skull shape diffs. rel. to trophic ecol.) 827–838; *Ocadia sinensis* (popn. struct., sex. dimorph., growth, repro., diet, hab.) 944–952; *Lachnolaimus maximus, Halichoeres (garnoti, bivittatus, maculipinna), Thalassoma bifasciatum* (ecomorph., oral & pharyng. jaw morph. rel. to diet) 953–966; *Rhamdia macuspanensis* n. sp. (cave fish, notes) 998–1004; *Lepidomeda vittata* (reprod. ecol. & growth in artif. pond) 1010–1015.

EGGS, *Lacerta schreiberi* (egg # & size not correl., each rel. to environ. factors) 145–150; *Hemidactylium scutatum* (matern. anti-pred. defence rel. to egg # & mtern. body size) 183–189; neotropical cichlids (26 spp.) (egg size determ. htchlng. size) 209–213; *Dermochelys coriacea* (pivotal temp. for sex determ.) 291–300; *Hybognathus (amarus, placitus), Macrhybopsis aestivalis, Notropis (girardi, jemezanus, simus pecosensis, stramineus)* (egg type rel. to popn. declines in dammed rivers) 559–569; *Neusticurus (ecpleopus, juruazensis)* (size, fecund. sim. btwn. sympat. spp.) 570–582; *Japalura luei* n. sp. (one female specimen, egg size) 649–656; *Phyllodactylus marmoratus* (clutch size [1–2 eggs] not rel. to matern. body size) 747–752; *Rana kuhlii* (spawning beh., # & size of eggs) 769–773; *Ocadia sinensis* (seas., #, size) 944–952; *Lepidomeda vittata* (size, color, #) 1010–1015; *Menetia greyii* (met. rate in tiny amniote eggs compared to sim. size anamniote eggs) 1016–1020; *Betta splendens* (histol. of hatching glands) 1021–1026; *Lepidochelys olivacea* (high pivotal temp. for sex determ.) 1086–1088.

ENDANGERED SPECIES, *Chelonia mydas* (invalid. of humerus growth marks for ageing) 23–30; *Oncorhynchus (gilae, apache, mykiss, clarki)* (mtDNA data in mngment. unit determ.) 31–39; *Mabuya lavarambo* n. sp. (n. sp. extremely rare) 114–119; *Pseudoxyrhopus analabe* n. sp. (only one specimen, rain-forest hab.) 128–132; *Gila cypha* (popn. decline in unaltered hab., introd. spp. implicated) 190–193; *Dermochelys coriacea* (pivotal temp. for sex determ.) 291–300; turtles (method to apply life hist. data to conserv. mngment.) 367–375; *Xenopus (gilli, laevis laevis)* (hab. destruct. & compet. w/ *X. laevis* endangers *X. gilli)* 504–509; *Caretta caretta* (growth spurts in pelagic turtles) 516–518; *Notropis simus pecosensis* (threatened sp., reprod. strat. rel. to popn. declines in dammed rivers) 559–569; *Gopherus agassizii* (long-term sperm storage in females) 702–705; *Nerodia floridana* (disjunct popn. not diff. from main popn., recomm. against endangered status) 715–719; *Petrocephalus catostoma* (persist in hypoxic habs., high hypoxia toler.) 762–768; *Cyprinodon eximius* complex (8 spp.) (phyl. anal., limited distrib., some spp. extinct) 852–865; *Noturus lachneri* (popn. dynam. in seas. stream-drying hab.) 874–882; *Catostomus latipinnis, Catostomus latipinnis* × *Xyrauchen texanus* (popn. estim. & surv. of "sp. of concern", hybrid abund.) 915–925; *Plethodon ainsworthi* n. sp. (only 2 known specimens) 967–970; *Lepidomeda vittata* (reprod. ecol. & growth in threatened sp.) 1010–1015; *Eurycea nana* (threatened sp. limited to San Marcos Spgs., morph. & alloz. evid.) 1046–1049; *Chelonia mydas* (nesting popn. sources of foraging popn.) 1064–1069; *Lepidochelys olivacea* (high pivotal temp. for sex determ.) 1086–1088; *Gopherus polyphemus* (valid. of age & growth history from scute annuli) 1094–1100.

EVOLUTION, *Lythrurus (snelsoni, atrapiculus, bellus, roseipinnis, umbratilis, fumeus, ardens, lirus)* (of cyt. b in *Lythrurus*, for phyl. anal.) 14–22; *Naso* (all 15 spp.) (of feeding mechanisms, phyl. anal. head & gut morph.) 104–113; *Salamandra (salamandra longirostris, s. morenica, s. crespoi)* (mtDNA evid. for spec. stat. of *S. s. longirostris)* 173–176; Rajidae (all gen. & subgen., 165 spp.) (clad. anal. shows pttns. of charc., evol.) 271–290; *Corydoras paleatus* (ontog. of Weberian apparatus, rel. to evol.) 301–311; *Anolis* (52 spp.) (factors in dewlap size) 430–438; thamnophiine snakes (4 gen., 10 spp.) (of embryonic growth rate diffs.) 549–558; Loricariidae, Scoloplacidae (of digest. tract modifs. for air-breathing) 663–675; *Lythrypnus (dalli, nesiotes, phorellus, spilus, zebra)* (of simultaneous hermaph., evid. for multiple origins in gobies) 720–724; *Cyprinodon eximius* complex (8 spp.) (evol. rels., paraphyly, allozyme evid.) 852–865; *Abronia* (10 spp.) (of morph. charcs. from phyl. anal. w/mtDNA data) 883–892; tetraodontiform fishes *(Monacanthus hispidus, Canthigaster rostrata, Diodon holocanthus)*, non-tetraodontiform fishes *(Acanthurus chirurgus, Abudefduf saxatilis, Scarus coeruleus)* (of complex antipred. defence rel. to # of vertebrae) 971–984; *Menetia greyii* (evol. of amniote egg rel. to physiol. needs) 1016–1020; *Eleutherodactylus*

podiciferus (of female reciprocal calling) 1076–1080.

FECUNDITY, *Lacerta schreiberi* (clutch size & egg mass rel. to environ. factors) 145–150; turtles (fec. data in method appl. to conserv. mngment.) 367–375; *Bitis caudalis* (repro. freq. diffs. btwn. habs.) 391–401; *Neusticurus (ecpleopus, juruazensis)* (sim. btwn. sympat. spp.) 570–582; *Mabuya frenata* (& other repro. traits, vivip. lizard) 612–619; *Phyllodactylus marmoratus* (clutch size [1–2 eggs] not rel. to matern. body size) 747–752; *Takydromus hsuehshanensis* (rel. to body size & fat, compared to sympat. & congener lizards) 866–873; *Ocadia sinensis* (clutch size, egg size, no rel. w/matern. size) 944–952; *Petromyzon marinus* (potent. fecund. in landlocked larvae) 1070–1075.

FEEDING, *Naso* (all 15 spp.) (evol. of feeding mechanisms, phyl. anal. head & gut morph.) 104–113; *Nerodia sipedon* (prey size aff. body & head size) 423–429; *Acanthochromis polyacanthus* (possible funct. of "glancing" beh. in offspring-parent interact.) 493–496; *Scomberoides (lysan, tol)* (juvs. feed on fish scales) 510–515; *Xenopus laevis* (terrest. prey capture by aquat. frog) 787–791; *Gasterosteus aculeatus* (skull shape rel. to trophic diffs.) 827–838; *Acanthurus nigrofuscus* (daily migr., cues in starting migr. & finding sites) 893–905; *Lachnolaimus maximus, Halichoeres (garnoti, bivittatus, maculipinna), Thalassoma bifasciatum* (oral & pharyng. jaw morph. rel. to diet and feeding) 953–966; *Chelonia mydas* (nesting popn. sources of foraging popn.) 1064–1069.

FOOD, *Uta tumidarostra* (intertidal lizard secretes NaCl due to diet) 231–234; *Bitis caudalis* (stom. conts. vary by hab.) 391–401; *Pituophis catenifer* (diet, compare lit. records & museum stom. conts.) 463–466; *Scomberoides (lysan, tol)* (juvs. feed on fish scales) 510–515; *Neusticurus (ecpleopus, juruazensis)* (diet diffs. btwn. sympat. spp.) 570–582; *Ambystoma maculatum* (eff. of food limit. on larval dens. depend.) 926–935; *Ocadia sinensis* (ontogen. diet shift to herbiv. in females, males stay carniv.) 944–952; *Lachnolaimus maximus, Halichoeres (garnoti, bivittatus, maculipinna), Thalassoma bifasciatum* (oral & pharyng. jaw morph. rel. to diet) 953–966; *Rhamdia macuspanensis* n. sp. (cave fish, notes on diet) 998–1004.

GENETICS, *Crotalus horridus* (gen. var. & gene flow, microsatellite markers) 411–422; *Xenopus (gilli, laevis laevis)* (DNA evid. for lack of hybridiz. btwn. these spp.) 504–509; *Alligator mississippiensis* (microsat. loci sim. to other vertebrates', shows more heterozyg. than other measures of heterozyg. in alligators) 591–601; *Tropidurus spinulosus* complex (11 popns.) (molec. evol. in mtDNA locus, biogeogr. & phyl. info.) 839–851.

GEOGRAPHIC LOCALITIES

Alabama, *Lythrurus (atrapiculus, bellus, roseipinnis, ardens, lirus)* 14–22; *Gopherus polyphemus* 1094–1100.

Alaska, *Blepsias bilobus* 743–745; *Gasterosteus aculeatus* 827–838.

American Samoa, *Emoia (cyanura, impar)* 247–249.

Antarctica, *Pogonophryne cerebropogon* n. sp. 1005–1009.

Antigua, *Lythrypnus nesiotes* 720–724.

Argentina, *Hoplias malabaricus* 485–487.

Arizona, *Cnemidophorus (tigris punctilinealis, t. marmoratus, t. punctilinealis* × *t. marmoratus)* 1–13; *Oncorhynchus (gilae, apache)* 31–39; *Crotalus atrox* 40–47; *Gopherus agassizii* 482–484; *Catostomus latipinnis, Catostomus latipinnis* × *Xyrauchen texanus* 915–925; *Lepidomeda vittata* 1010–1015.

Arkansas, *Lythrurus (snelsoni, umbratilis, fumeus)* 14–22; *Noturus lachneri* 874–882.

Atlantic Ocean, *Rhynchactis (leptonema [C], macrothrix* n. sp. [N,C]) 583–590; *Eustomias (Dinematochirus) (achirus* [N], *aequatorialis* n. sp. [C], *intermedius* n. sp. [C], *insularum* n. sp. [N]) 676–686; *Lythrypnus (nesiotes, phorellus, spilus)* (W) 720–724.

Australia, *Labroides dimidiatus* (QLD) 120–127; *Gerres erythrourus = G. abbreviatus* (NT) 165–172; *Acanthochromis polyacanthus* (QLD) 493–496; *Halophryne diemensis* (WA, NT, QLD) 696–701; *Gehyra (punctata, variegata), Oedura (marmorata, reticulata), Christinus marmoratus, Nephrurus stellatus* (WA) 736–742; *Phyllodactylus marmoratus* (SA) 747–752; *Menetia greyii* (SA) 1016–1020; *Varanus mertensi* (QLD) 1054–1059.

Bahamas, *Chelonia mydas* 23–30; *Lythrypnus spilus* 720–724.

Belau (Palau), *Oxyurichthys takagi* n. sp. 687–695.

Borneo, *Epalzeorhynchos kalopterus* 48–63.

Botswana, *Bitis caudalis* 391–401.

Brazil, *Proceratophrys cururu* n. sp. 159–164; *Neusticurus (ecpleopus, juruazensis)* 570–582; *Mabuya frenata* 612–619; *Pogonopoma wertheimeri, Pogonopomoides parahybae, Pseudorinelepis* (4 spp.), *Rhinelepis* (3 spp.) 620–636; *Apteronotus (hasemani, bonapartii)* 730–735; *Tropidurus spinulosus* complex (11 popns.) 839–851; *Psyllophryne (hermogenesi* n. sp., *didactyla)* 985–987.

Burma, *Epalzeorhynchos bicornis* 48–63.

California, northeast Pacific intertidal fishes (10 spp.) 456–462; *Gopherus agassizii* 482–484; *Lythrypnus (dalli, zebra)* 720–724.

Cameroon, *Brienomyrus* 199–204.

Canada, *Clemmys gutatta* (Ont.) 222–225; *Petromyzon marinus* (Ont.) 1070–1075.

Caribbean Sea, *Galeus springeri* n. sp. 151–158; *Anolis* (52 spp.) 430–438; *Lythrypnus nesiotes* 720–724.

China, *Gerres erythrourus = G. abbreviatus* (Hainan I.) 165–172.

Colorado, *Gila cypha* 190–193; *Ambystoma tigrinum nebulosum* 1089–1093.

Costa Rica, *Dermochelys coriacea* 291–300; *Syacium maculiferum* 753–758; *Eleutherodactylus podiciferus* 1076–1080; *Lepidochelys olivacea* 1086–1088.

Cuba, *Diploglossus (delasagra, nigropunctatus, garridoi* n. sp.) 97–103; *Galeus springeri* n. sp. 151–158.

Ecuatorial Guinea, *Brienomyrus* 199–204.

Florida, *Lythrurus atrapiculus* 14–22; *Alligator mississippiensis* 591–601; *Nerodia floridana* 715–719; *Lythrypnus (phorellus, spilus)* 720–724; *Lachnolaimus maximus, Halichoeres (garnoti, bivittatus, maculipinna), Thalassoma bifasciatum* 953–966; *Monacanthus hispidus* 971–984; *Rivulus marmoratus* 1101–1106.

Gabon, *Brienomyrus* 199–204.
Georgia, *Lythrurus (atrapiculus, lirus)* 14–22; *Bufo terrestris* 445–450; *Anolis carolinensis* 774–779.
Guatemala, *Abronia* (10 spp.) 883–892.
Gulf of Mexico, *Eustomias (Dinematochirus) achirus* 676–686.
Hawaii, *Vitraria clarescens* = *Sicyopterus stimpsoni* 501–503; *Rhynchactis leptonema* 583–590; *Eustomias (Dinematochirus) tomentosis* n. sp. 676–686; *Oxyurichthys heisei* n. sp. 687–695.
Hispaniola, *Galeus springeri* n. sp. 151–158.
Illinois, *Lythrurus (umbratilis, fumeus)* 14–22; *Trachemys scripta elegans* 488–492; *Cottus bairdi* 657–662.
India, *Oxyurichthys paulae* n. sp. 687–695.
Indian Ocean, *Rhynchactis (macrothrix* n. sp., *microthrix* n. sp.) 583–590.
Indiana, *Lythrurus (umbratilis, fumeus, ardens)* 14–22.
Indonesia, *Epalzeorhynchos kalopterus* (Sum., Java, Born.) 48–63; *Gerres erythrourus* = *G. abbreviatus* 165–172; *Halophryne (hutchinsi* n. sp., *diemensis)* 696–701.
Iowa, *Lythrurus umbratilis* 14–22.
Israel, *Acanthurus nigrofuscus* 893–905.
Jamaica, tetraodontiform fishes *(Canthigaster rostrata, Diodon holocanthus)*, non-tetraodontiform fishes *(Acanthurus chirurgus, Abudefduf saxatilis, Scarus coeruleus)* 971–984.
Japan, *Gerres erythrourus* = *G. abbreviatus* 165–172; *Pseudocalliurichthys ikedai* n. sp. 451–455; *Scomberoides (lysan, tol)* 510–515; *Cyprinus (carpio,* sp.) (fossils) 1050–1053.
Kansas, *Lythrurus umbratilis* 14–22.
Kentucky, *Lythrurus (umbratilis, fumeus, ardens)* 14–22.
Lake Victoria, *Petrocephalus catostoma* 762–768.
Lesser Antilles, *Galeus springeri* n. sp. 151–158.
Louisiana, *Lythrurus (roseipinnis, umbratilis, fumeus)* 14–22; *Scincella lateralis* 519–522; *Alligator mississippiensis* 591–601.
Madagascar, *Mabuya lavarambo* n. sp. 114–119; *Pseudoxyrhopus analabe* n. sp. 128–132; *Mantidactylus microtympanum* 194–198; *Rhynchactis macrothrix* n. sp. 583–590.
Malaysia, *Epalzeorhynchos kalopterus* (Malay Pen., Sar.) 48–63.
Mariana Islands, fossil squamates (12 spp. lizards, 1 sp. snake) 64–75.
Mediterranean Sea, *Podarcis hispanica atrata* (Columbretes Arch.) 1037–1040.
Mexico, *Uta tumidarostra* (Baja Cal.) 231–234; *Thorius* (10 spp., 5 are n. spp.) (Vera., Pueb.) 312–345; Sceloporus variabilis spp. group (7 spp.) (Hid., Quer., San Luis Pot., Vera., Tab., Chiap., Oax., Nuevo L., Yuc., Quin. R., Mex.) 354–366; *Cyprinodon eximius* complex (8 spp.) (Chihua., Coah., Dur., Zaca., N. Leon) 852–865; *Abronia* (10 spp.) (Chiapas, Oax., Guerr.) 883–892; *Rhamdia macuspanensis* n. sp. (Tab.) 998–1004.
Michigan, *Lythrurus umbratilis* 14–22; *Oncorhynchus (gorbuscha, tshawytscha, gorbuscha* × *tshawytscha)* 706–714; *Coregonus hoyi* 1060–1063.
Minnesota, *Lythrurus umbratilis* 14–22.
Missippippi, *Lythrurus (bellus, roseipinnis, umbratilis, fumeus)* 14–22; *Micropterus salmoides* 383–390; *Plethodon ainsworthi* n. sp. 967–970.
Missouri, *Lythrurus (umbratilis, fumeus)* 14–22; *Notophthalmus viridescens louisianensis* 1027–1031.
Morocco, *Podarcis h. hispanica* 1037–1040.
Namibia, *Bitis caudalis* 391–401.
Nebraska, *Chrysemys picta, Chelydra serpentina* 383–390.
Nevada, *Gopherus agassizii* 482–484, 702–705.
New Guinea, *Gerres erythrourus* = *G. abbreviatus* 165–172; *Halophryne diemensis* 696–701.
New Mexico, *Cnemidophorus (tigris punctilinealis, t. marmoratus, t. punctilinealis* × *t. marmoratus)* 1–13; *Oncorhynchus (gilae, mykiss, clarki)* 31–39; *Hybognathus (amarus, placitus), Macrhybopsis aestivalis, Notropis (girardi, jemezanus, simus pecosensis, stramineus)* 559–569.
New York, *Lythrurus umbratilis* 14–22; *Ambystoma tigrinum* 402–410; *Ambystoma maculatum* 926–935.
Nicaragua, *Chelonia mydas* 1064–1069.
Nigeria, *Mormyrus kingsleyi* = *Brienomyrus kingsleyi* 199–204.
North Carolina, *Lythrurus ardens* 14–22; *Plethodon jordani* 214–219; *Desmognathus aeneus* 637–648.
Ohio, *Lythrurus (umbratilis, ardens)* 14–22; *Nerodia sipedon* 423–429; *Etheostoma caeruleum* 988–997.
Oklahoma, *Lythrurus (snelsoni, umbratilis, fumeus)* 14–22.
Oregon, *Rana cascadae* 906–914.
Pacific Ocean, *Caretta caretta* (N) 516–518; *Rhynchactis leptonema* (C) 583–590; *Eustomias (Dinematochirus) (achirus* [S], *woollardi* n. sp. [C]) 676–686; *Lythrypnus (dalli, zebra)* (E) 720–724; *Syacium maculiferum* (E) 753–758.
Palau (Belau), *Oxyurichthys takagi* n. sp. 687–695.
Panama, *Physalaemus pustulosus* 250–251; *Rhinelepis* (3 spp.) 620–636.
Paraguay, *Callichthys callichthys* 177–182; *Tropidurus spinulosus* complex (11 popns.) 839–851.
Pennsylvania, *Lythrurus umbratilis* 14–22; *Crotalus horridus* 411–422.
Peru, *Pseudorinelepis* (4 spp.) 620–636.
Philippines, *Gerres erythrourus* = *G. abbreviatus* 165–172; *Halophryne hutchinsi* n. sp. 696–701.
Portugal, *Salamandra s. crespoi* 173–176.
Puerto Rico, *Galeus springeri* n. sp. 151–158.
Singapore, *Gerres erythrourus* = *G. abbreviatus* 165–172.
South Africa, *Bitis caudalis* 391–401; *Paralichthodes algoensis* 477–481; *Xenopus (gilli, laevis laevis)* 504–509; *Chamaeleo dilepis* 759–761; *Xenopus laevis* 787–791.
South Carolina, *Rana catesbeiana* 244–246; *Nerodia floridana* 715–719.
Spain, *Lacerta schreiberi* 145–150; *Salamandra (salamandra longirostris, s. morenica)* 173–176; *Psammodromus algirus* 780–786; *Podarcis h. hispanica* 1037–1040.
Switzerland, *Bombina variegata* 497–500.
Taiwan, *Japalura (luei* n. sp., *brevipes, makii)* 649–656; *Rana kuhlii* 769–773; *Takydromus hsuehshanensis* 866–873; *Ocadia sinensis* 944–952.
Tennessee, *Lythrurus (umbratilis, fumeus, ardens, lirus)* 14–22.

Texas, *Lythrurus (umbratilis, fumeus)* 14–22; *Etheostoma spectabile* 226–230; *Cnemidophorus (gularis, laredoensis* [parthenogen. sp.]) 240–243; *Uta stansburiana* 376–382; *Cyprinodon eximius* complex (8 spp.) 852–865; *Sciaenops ocellatus* 936–943; *Eurycea nana* 1046–1049.

Thailand, *Epalzeorhynchos (kalopterus* (Malay Pen.), *frenatus, bicolor, munensis)* 48–63; *Gerres erythrourus = G. abbreviatus* 165–172; *Cnemaspis chanthaburiensis* n. sp. 439–444.

Uganda, *Petrocephalus catostoma* 762–768.

Virginia, *Lythrurus ardens* 14–22; *Hemidactylium scutatum* 183–189; *Plethodon cinereus* 205–208, 472–476; *Cyprinodon variegatus* 235–239; *Plethodon cinereus* 725–729.

West Virginia, *Lythrurus umbratilis* 14–22; *Rhinichthys bowersi* 1081–1085.

Wisconsin, *Lythrurus umbratilis* 14–22; *Amia calva, Notemigonus crysoleucas* 220–221.

Zimbabwe, *Bitis caudalis* 391–401.

GROWTH, *Chelonia mydas* (invalid. of humerus growth marks for ageing) 23–30; *Crotalus atrox* (ontog. of sex. size dimorph.) 40–47; *Callichthys callichthys* (complex ontogen. body shape change) 177–182; *Mantidactylus microtympanum* (bone markings clear, popn. age-growth struct.) 194–198; *Cyprinodon variegatus* (low salin. aff. growth & reprod.) 235–239; *Bitis caudalis* (rate diffs. btwn. habs.) 391–401; *Gopherus agassizii* (valid. of age estim. by scute rings) 482–484; *Caretta caretta* (growth spurts in pelagic turtles) 516–518; thamophiine snakes (4 gen., 10 spp.) (evol. of embryonic growth rate diffs.) 549–558; *Ambystoma maculatum* (eff. of aggress. & food limit. on larval dens. depend. growth) 926–935; *Sciaenops ocellatus* (of larvae rel. to dev. of vis. sens.) 936–943; *Ocadia sinensis* (rate, sex. dimorph.: females larger) 944–952; *Lepidomeda vittata* (in artif. pond near natural hab.) 1010–1015; *Petromyzon marinus* (rates and atypical gonads increase w/periodic lampricide stream treatments) 1070–1075; *Ambystoma tigrinum nebulosum* (allomet. diffs. btwn. cannib. & non-cannib. larval morphs.) 1089–1093; *Gopherus polyphemus* (valid. of scute annuli width for growth history determ.) 1094–1100.

HABITAT, *Diploglossus garridoi* n. sp. (notes) 97–103; *Mabuya lavarambo* n. sp. (rain forest, diff. from congeners) 114–119; *Pseudoxyrhopus analabe* n. sp. (notes) 128–132; *Proceratophrys cururu* n. sp. (notes) 159–164; *Gerres erythrourus = G. abbreviatus* (notes) 165–172; *Etheostoma spectabile* (diffs. in temp. pref. of dam tailwater & non-tailwater popns.) 226–230; *Uta tumidarostra* (intertidal lizard secretes NaCl) 231–234; *Cyprinodon variegatus* (low salin. aff. growth & reprod.) 235–239; *Rana catesbeiana* (oral deform. of tdpls. in polluted hab.) 244–246; *Emoia (cyanura, impar)* (microhab. diffs. btwn. cryptic spp.) 247–249; *Physalaemus pustulosus* (microhab. of nest plcmnt.) 250–251; *Thorius* (10 spp., 5 are n. spp.) (of tiny salamanders, microhab. diffs.) 312–345; *Bitis caudalis* (body size & shape, repro. freq., growth rate & diet diffs. btwn. habs.) 391–401; *Ambystoma tigrinum* (wide var. in hab. use & emigr., radio tracked indivs.) 402–410; *Crotalus horridus* (basking & hibern. sites rel. to gene var. & flow) 411–422; *Pseudocalliurichthys ikedai* n. sp. (notes) 451–455; *Bombina variegata* (breeding site fidel. in var. hab.) 497–500; *Xenopus (gilli, laevis laevis)* (hab. compet. w/*X. laevis* endangers *X. gilli)* 504–509; *Scomberoides (lysan, tol)* (spp. diffs. for juvs.) 510–515; *Neusticurus (ecpleopus, juruazensis)* (hab. & microhab. diffs. btwn. sympat. spp.) 570–582; *Rhynchactis (leptonema, macrothrix* n. sp., *microthrix* n. sp.) (deep water, below 400m) 583–590; *Japalura (luei* n. sp., *brevipes, makii)* (notes) 649–656; *Syacium maculiferum* (depth) 753–758; *Petrocephalus catostoma* (persist in hypoxic habs., escape pred.) 762–768; *Anolis carolinensis* (ontog. of microhab. use rel. to ecomorph. class.) 774–779; *Psammodromus algirus* (seas. & ontog. microhab. shifts) 780–786; *Gasterosteus aculeatus* (skull shape rel. to trophic diffs. btwn. habs.) 827–838; *Takydromus hsuehshanensis* (repro. seas. of high elev. lizards) 866–873; *Noturus lachneri* (popn. dynam. in seas. stream-drying hab.) 874–882; *Ocadia sinensis* (notes) 944–952; *Plethodon ainsworthi* n. sp. (notes) 967–970; *Psyllophryne hermogenesi* n. sp. (notes) 985–987; *Etheostoma caeruleum* (microhab. velocity pref., flow refugia) 988–997; *Lepidomeda vittata* (artif. pond; seas. diffs. in temp., dissoved oxy., turbid., rel. to repro.) 1010–1015.

HATCHING GLANDS, *Betta splendens* (histology) 1021–1026.

HEARING, *Diploglossus (delasagra, nigropunctatus, garridoi* n. sp.) (ear size & shape disting. n. sp.) 97–103; *Brevoortia tyrannus, Harengula jaguana, Anchoa mitchilli* (hab. shifts rel. to bulla develop.) 133–144; *Chaetodon (octofasciatus, sedentarius, kleinii)* (sound sensitiv. in lat. line, unique to genus) 1032–1036.

HERMAPHRODITISM, *Lythrypnus (dalli, nesiotes, phorellus, spilus, zebra)* (simultaneous hermaph., evid. for multiple origins in gobies) 720–724; *Rivulus marmoratus* (primitive sperm struct. in self-fert. hermaphr.) 1101–1106.

HIBERNATION, *Crotalus horridus* (gen. var. & gene flow btwn. hibernacula) 411–422.

HISTOLOGY, *Plethodon cinereus* (male dentition, scanning e.m.) 472–476; *Lythrypnus (dalli, nesiotes, phorellus, spilus, zebra)* (gonad struct., simultaneous hermaph.) 720–724; *Rana cascadae* (ultraviolet light damage to high altitude frog's retina) 906–914; *Betta splendens* (of hatching glands) 1021–1026; *Chaetodon (octofasciatus, sedentarius, kleinii)* (swimbladder to lat. line link allows sound sens., unique to genus) 1032–1036; *Petromyzon marinus* (of typical & atypical gonads in landlocked larvae) 1070–1075; *Rivulus marmoratus* (primitive sperm struct. in self-fert. hermaphr.) 1101–1106.

HOME RANGE, *Plethodon cinereus* (familiarity aff. intersex. territ. beh.) 205–208; *Crotalus horridus* (rel. to hibernacula & basking sites, gene flow) 411–422.

HYBRIDIZATION, *Cnemidophorus (tigris punctilinealis, t. marmoratus, t. punctilinealis × t. marmoratus)* (metab. measures sim. btwn. hybrids & parentals)

1–13; *Xenopus (gilli, laevis laevis)* (evid. for lack of hybrid. btwn. these spp.) 504–509; *Oncorhynchus (gorbuscha, tshawytscha, gorbuscha* × *tshawytscha)* (btwn. 2 introduced spp.) 706–714; *Catostomus latipinnis, Catostomus latipinnis* × *Xyrauchen texanus* (low levels) 915–925; *Rhinichthys bowersi* (evid. *R. bowersi* is F1 intergeneric hybrid, an invalid sp.) 1081–1085.

LARVAE, *Brevoortia tyrannus, Harengula jaguana, Anchoa mitchilli* (hab. shifts rel. to sensory develop., ecol. signif.) 133–144; *Proceratophrys cururu* n. sp. (descript.) 159–164; *Rana catesbeiana* (oral deform. of tdpls. in polluted hab.) 244–246; *Corydoras paleatus* (ontog. of Weberian apparatus) 301–311; *Bufo terrestris* (antipred. beh. of larvae to chem. stim.) 445–450; *Brevoortia tyrannus, Sciaenops ocellatus* (metrics to quantify larval dev. states across spp.) 602–611; *Desmognathus aeneus* (evid. of direct dev., lack larvae) 637–648; *Ambystoma maculatum* (eff. of aggress. & food limit. on larval dens. depend.) 926–935; *Sciaenops ocellatus* (dev. of vis. sens.) 936–943; *Lepidomeda vittata* (size, microhab., schooling) 1010–1015; *Petromyzon marinus* (potent. fecund. in landlocked larvae) 1070–1075; *Ambystoma tigrinum nebulosum* (allomet. diffs. btwn. cannib. & non-cannib. larval morphs.) 1089–1093.

LATERAL LINE, *Brevoortia tyrannus, Harengula jaguana, Anchoa mitchilli* (hab. shifts not rel. to lat. line develop.) 133–144; *Pseudocalliurichthys ikedai* n. sp. (in sp. descript.) 451–455; *Cottus bairdi* (experim. blocking of lat. line aff. distance determ.) 657–662; *Chaetodon (octofasciatus, sedentarius, kleinii)* (sound sensit. in lat. line, unique to genus) 1032–1036.

LIFE HISTORY, *Lacerta schreiberi* (egg # & size not correl., each rel. to environ. factors) 145–150; turtles (method to apply life hist. data to conserv. mngment.) 367–375; *Mabuya frenata* (repro. traits, vivip. lizard) 612–619; *Lepidomeda vittata* (in artif. pond, reprod. ecol., growth) 1010–1015.

LIGHT, *Physalaemus pustulosus* (levels rel. to nest plcmnt.) 250–251; *Anolis* (52 spp.) (hab. illum. rel. to dewlap size) 430–438; *Acanthurus nigrofuscus* (diel cycles rel. to daily feeding migr.) 893–905; *Rana cascadae* (ultraviolet light damage to high altitude frog's retina) 906–914.

LOCOMOTION, *Cnemidophorus (tigris punctilinealis, t. marmoratus, t. punctilinealis* × *t. marmoratus)* (loc. perform. of hybrids same as parentals) 1–13; *Cnemidophorus (gularis, laredoensis* [parthenogen. sp.]) (compare speed btwn. spp.) 240–243; *Notemigonus crysoleucas* (swimming perform. in schooling) 467–471; *Xenopus laevis* (mech. of terrest. prey capture in aquat. frog) 787–791; tetraodontiform fishes *(Monacanthus hispidus, Canthigaster rostrata, Diodon holocanthus),* non-tetraodontiform fishes *(Acanthurus chirurgus, Abudefduf saxatilis, Scarus coeruleus)* (vertebra # rel. to pred. escape response) 971–984.

METHODS, *Callichthys callichthys* (thin-plate splines, partial warps, to descr. complex ontogen. body shape change) 177–182; *Mantidactylus microtympanum* (bone markings clear, use for age/growth determ.) 194–198; *Clemmys gutatta* (accuracy of scute-ring counts in ageing) 222–225; *Tilapia mossambica* (clear & stain shrinks fish) 346–353; turtles (method to apply life hist. data to conserv. mngment.) 367–375; *Pituophis catenifer* (diet, compare lit. records & museum stom. conts.) 463–466; *Gopherus agassizii* (valid. of age estim. by scute rings) 482–484; *Scincella lateralis* (distance sampling for popn. dens. estim.) 519–522; *Brevoortia tyrannus, Sciaenops ocellatus* (metrics to quantify larval dev. states across spp.) 602–611; lizards (7 fams., 27 spp.) (loc. of position of vent for morphometrics w/skeletons) 792–801; *Gasterosteus aculeatus* (skull shape by geom. morphomet. shows trophic diffs.) 827–838; *Chelonia mydas* (mtDNA markers as substit. for tagging in migr. studies) 1064–1069.

MICROSATELLITE LOCI, *Crotalus horridus* (detects gen. var. & gene flow btwn. local popns.) 411–422; *Alligator mississippiensis* (useful in reprod. ecol.) 591–601.

MIGRATION, *Ambystoma tigrinum* (wide var. in hab. use & emigr.) 402–410; *Crotalus horridus* (gravid fem. dispersal & mate & hibernac. search rel. to gene flow) 411–422; northeast Pacific intertidal fishes (10 spp.) (recoloniz. of cleared tidepools) 456–462; *Bombina variegata* (breeding site fidel., gender diffs.) 497–500; *Acanthurus nigrofuscus* (daily migr., cues in starting migr. & finding sites) 893–905; *Coregonus hoyi* (daily vert. aquat. migr., rel. to water press.) 1060–1063; *Chelonia mydas* (from nesting to foraging areas, mtDNA markers) 1064–1069.

MITOCHONDRIAL DNA, *Oncorhynchus (gilae, apache, mykiss, clarki)* (mtDNA data in mangnmnt. unit determ.) 31–39; *Salamandra (salamandra longirostris, s. morenica, s. crespoi)* (cyt b seq. evid. for vicariance) 173–176; *Tropidurus spinulosus* complex (11 popns.) (used in phyl. anal.) 839–851; *Abronia* (10 spp.) (used in phyl. anal.) 883–892; *Podarcis (hispanica atrata, h. hispanica)* (evid. for sp. status of *P. h. atrata)* 1037–1040; *Chelonia mydas* (mtDNA markers as substit. for tagging in migr. studies) 1064–1069.

MORPHOLOGY, *Crotalus atrox* (rattle charcs. correl. w/body length) 40–47; *Diploglossus (delasagra, nigropunctatus)* (describe ovolo, only males, expanded scale at cloacal margin) 97–103; *Naso* (all 15 spp.) (of feeding mechanisms, phyl. anal. head & gut morph.) 104–113; *Galeus springeri* n. sp. (ventral precaudal crest in n. sp. & congeners & *Parmaturus)* 151–158; *Callichthys callichthys* (complex ontogen. body shape change) 177–182; *Mormyrus kingsleyi* = *Brienomyrus kingsleyi* (of electrocytes in generic determ.) 199–204; *Rana catesbeiana* (oral deform. of tdpls. in polluted hab.) 244–246; Rajidae (all gen. & subgen., 165 spp.) (morph. conservative, spp. diverse; electrocytes, squam. & osteol. charcs. in phyl. anal.) 271–290; *Corydoras paleatus* (ontog. of Weberian apparatus) 301–311; *Nerodia sipedon* (prey size aff. body & head size) 423–429; *Scomberoides (lysan, tol)*

(morph. distincts. btwn. juvs. of these spp.) 510–515; *Eustomias (Dinematochirus) (achirus, aequatorialis* n. sp., *intermedius* n. sp., *insularum* n. sp., *tomentosis* n. sp., *woollardi* n. sp.) (of barbels distings. spp.) 676–686; *Lythrypnus (dalli, nesiotes, phorellus, spilus, zebra)* (gonad struct., compared to other hermaph. gobies) 720–724; *Apteronotus (hasemani, bonapartii)* (sex. dimorph. in *A. hasemani* but not *A. bonapartii)* 730–735; *Chamaeleo dilepis* (descript. & mech. of mvmnt. of neck flaps) 759–761; *Anolis carolinensis* (ecomorph. class. rel. to microhab. ontog.) 774–779; lizards (7 fams., 27 spp.) (loc. of position of vent for morphometrics w/skeletons) 792–801; *Gasterosteus aculeatus* (skull shape by geom. morphomet., rel. to trophic diffs.) 827–838; *Abronia* (10 spp.) (evol. of morph. charcs. from phyl. anal. w/mtDNA data) 883–892; *Sciaenops ocellatus* (of eye rel. to dev. of vis. sens. in larvae) 936–943; *Lachnolaimus maximus, Halichoeres (garnoti, bivittatus, maculipinna), Thalassoma bifasciatum* (oral & pharyng. jaw morph. rel. to diet) 953–966; *Chaetodon (octofasciatus, sedentarius, kleinii)* (swimbladder to lat. line link allows sound sens., unique to genus) 1032–1036; Pseudochromidae (Congrogadinae) (homology of ant. verts., ribs & dorsal pterygiophores & rays) 1041–1045; *Petromyzon marinus* (atypical gonads of landlocked larvae) 1070–1075.

NESTING, *Proceratophrys cururu* n. sp. (nest descript.) 159–164; *Hemidactylium scutatum* (lack of antipred. defence during nest-guarding) 183–189; *Amia calva, Notemigonus crysoleucas* (nest assoc. btwn. pred. & prey spp.) 220–221; *Physalaemus pustulosus* (nest plcmnt. rel. to light levels & cover) 250–251; *Ocadia sinensis* (nest descript., pred. on nests) 944–952; *Lepidochelys olivacea* (high pivotal temp. for sex determ.) 1086–1088.

NOMENCLATURE, *Diploglossus (delasaqra, nigropunctatus, garridoi* n. sp.) (n. sp., subsp. elev.) 97–103; *Gerres erythrourus* = *G. abbreviatus* (name change: previous valid name) 165–172; *Mormyrus kingsleyi* = *Brienomyrus kingsleyi* (genus transfer) 199–204; *Paralichthodes algoensis* (clad. anal., evid. for family status) 477–481; *Vitraria clarescens* = *Sicyopterus stimpsoni (V. clarescens* is postlarva of *S. stimpsoni)* 501–503; *Pteraclis fasciatus* = *Caristius fasciatus* (change family & genus, design. new types) 746.

OLFACTION, *Plethodon jordani* (ctshp. beh. aff. by experimen. pherom. deliv.) 214–219; *Bufo terrestris* (antipred. beh. of larvae to chem. stim.) 445–450; *Notophthalmus viridescens louisianensis* (assoc. learning of pred. avoid., olf. cues) 1027–1031.

OSTEOLOGY, *Chelonia mydas* (invalid. of humerus growth marks for ageing) 23–30; *Epalzeorhynchos (kalopterus, frenatus, bicolor, munensis, bicornis)* (phyl. charcs. in clad. anal.) 48–63; Dactyloscopidae (type spp. of 8 of the 9 gen.) (as phyl. charcs.) 76–96; *Mormyrus kingsleyi* = *Brienomyrus kingsleyi* (evid. for genus change) 199–204; *Corydoras paleatus* (ontog. of Weberian apparatus) 301–311; *Thorius* (10 spp., 5 are n. spp.) (of tiny salamanders) 312–345; *Cnemaspis chanthaburiensis* n. sp. (descript.) 439–444; *Pogonopoma wertheimeri, Pogonopomoides parahybae, Pseudorinelepis* (4 spp.), *Rhinelepis* (3 spp.) (as phyl. charcs.) 620–636; lizards (7 fams., 27 spp.) (lot. of position of vent for morphometrics w/skeletons) 792–801; *Gasterosteus aculeatus* (skull shape by geom. morphomet., rel. to trophic diffs.) 827–838; tetraodontiform fishes *(Monacanthus hispidus, Canthigaster rostrata, Diodon holocanthus),* non-tetraodontiform fishes *(Acanthurus chirurgus, Abudefduf saxatilis, Scarus coeruleus)* (vertebra # rel. to pred. escape response) 971–984; Pseudochromidae (Congrogadinae) (homology of ant. verts., ribs & dorsal pterygiophores & rays) 1041–1045; teleosts (fossil & recent) (basal teleost fossil influence on higher-level class.) 1107–1113.

PALEONTOLOGY, squamates (12 spp. lizards, 1 sp. snake) (histor. biogeogr. info. from fossils, Mariana Is.) 64–75; *Cyprinus (carpio,* sp.) (fossil teeth, evid. for n. sp.) 1050–1053; teleosts (fossil & recent) (basal teleost fossil influence on higher-level class.) 1107–1113.

PARASITES, *Labroides dimidiatus* (ectoparasite cleaners, mutual benefit of cleaned & cleaners?) 120–127; *Blepsias bilobus* (skin shedding rel. to surface parasites) 743–745.

PARTHENOGENESIS, *Cnemidophorus (gularis, laredoensis* [parthenogen. sp.]) (compare pred. escape btwn. spp.) 240–243.

PHEROMONES, *Plethodon jordani* (ctshp. beh. aff. by experimen. pherom. deliv.) 214–219; *Notophthalmus viridescens louisianensis* (assoc. learning of pred. avoid.: alarm pherom. + unfamiliar pred.) 1027–1031.

PHYLOGENETIC ANALYSIS, *Lythrurus (snelsoni, atrapiculus, bellus, roseipinnis, umbratilis, fumeus, ardens, lirus)* (clad. anal., cyt. b seqs., alter. of *L. fumeus* rels.) 14–22; *Oncorhynchus (gilae, apache, mykiss, clarki)* (clad. anal., mtDNA data) 31–39; *Epalzeorhynchos (kalopterus, frenatus, bicolor, munensis, bicornis)* (clad. anal., osteol. & morph. charcs.) 48–63; Dactyloscopidae (type spp. of 8 of the 9 gen.) (clad. anal., osteol, charcs., lip fimbriae) 76–96; *Naso* (all 15 spp.) (clad. anal., mostly muscle & gut charcs.) 104–113; *Salamandra (salamandra longirostris, s. morenica, s. crespoi)* (clad. anal., mtDNA evid. for spec. stat. of *S. s. longirostris)* 173–176; Rajidae (all gen. & subgen., 165 spp.) (clad. anal. of fam.; squam., osteol. & electrocyte charcs.) 271–290; *Corydoras paleatus* (ontog. of Weberian apparatus, rel. to phyl. charcs.) 301–311; *Thorius* (10 spp., 5 are n. spp.) (of tiny salamanders, morph. & alloz. data) 312–345; *Scelaporus variabilis* spp. group (7 spp.) (clad. anal., isozyme data) 354–366; *Anolis* (52 spp.) (phyl. rels. confound study of dewlap size var.) 430–438; *Paralichthodes algoensis* (clad. anal., evid. for family status) 477–481; *Pogonopoma wertheimeri, Pogonopomoides parahybae, Pseudorinelepis* (4 spp.), *Rhinelepis* (3 spp.) (clad. anal., osteol., dig. tract morph. data) 620–636; Loricariidae, Scoloplacidae (phyl. info. from digest. tract modifs. for air-

breathing) 663–675; *Lythrypnus (dalli, nesiotes, phorellus, spilus, zebra)* (gonad struct. in phyl. anal., evid. for multiple origin of hermaph. in gobies) 720–724; *Apteronotus (hasemani, bonapartii)* (sex. dimorph. can aff. phyl. anal.) 730–735; *Tropidurus spinulosus* complex (11 popns.) (clad. anal., mtDNA & morph. data compared) 839–851; *Cyprinodon eximius* complex (8 spp.) (clad. anal., paraphyly, sister spp., allozyme evid.) 852–865; *Abronia* (10 spp.) (clad. anal., mtDNA data, biogeogr. & charc. evol. info.) 883–892; *Podarcis (hispanica atrata, h. hispanica)* (clad. anal., mtDNA evid. for sp. status of *P. h. atrata)* 1037–1040; *Eurycea nana* (alloz. & morph. evid. for sp. status of *E. nana)* 1046–1049; teleosts (fossil & recent) (basal teleost fossil influence on higher-level class.) 1107–1113.

PHYSIOLOGY, *Cnemidophorus (tigris punctilinealis, t. marmoratus, t. punctilinealis* × *t. marmoratus)* (metab. measures sim. btwn. hybrids & parentals) 1–13; *Cyprinodon variegatus* (low salin. aff. growth & reprod.) 235–239; *Petrocephalus catostoma* (high hypoxia toler.) 762–768; *Menetia greyii* (met. rate in tiny amniote eggs compared to sim. size anamniote eggs) 1016–1020; *Varanus mertensi* (water balance in semiaquat. goanna) 1054–1059.

POPULATIONS, *Oncorhynchus (gilae, apache, mykiss, clarki)* (rels. of relic popns., mtDNA data) 31–39; *Crotalus atrox* (ontog. of sex. size dimorph., popn.-spec. anal.) 40–47; *Mantidactylus microtympanum* (popn. age/growth struct., based on bone markings) 194–198; *Etheostoma spectabile* (diffs. in temp. pref. of dam tailwater & non-tailwater popns.) 226–230; turtles (popn. model. & life hist. data in method appl. to conserv. mngment.) 367–375; *Bitis caudalis* (repro., diet, body size & shape diffs. btwn. habs.) 391–401; *Crotalus horridus* (gene flow w/in & btwn. popns., microsatellite data) 411–422; northeast Pacific intertidal fishes (10 spp.) (recoloniz. of cleared tidepools) 456–462; *Scincella lateralis* (distance sampling for popn. dens. estim.) 519–522; *Hybognathus (amarus, placitus), Macrhybopsis aestivalis, Notropis (girardi, jemezanus, simus pecosensis, stramineus)* (reprod. strat. rel. to popn. declines in dammed rivers) 559–569; *Alligator mississippiensis* (microsat. loci useful in popn. biol.) 591–601; *Nerodia floridana* (lack of alloz. var. btwn. disjunct popns.) 715–719; *Gasterosteus aculeatus* (skull shape rel. to trophic diffs. btwn. popns.) 827–838; *Tropidurus spinulosus* complex (11 popns.) (phyl. anal., mtDNA data) 839–851; *Noturus lachneri* (popn. dynam. in seas. stream-drying hab.) 874–882; *Catostomus latipinnis, Catostomus latipinnis* × *Xyrauchen texanus* (popn. estim. & surv. of "sp. of concern", hybrid abund.) 915–925; *Ambystoma maculatum* (eff. of aggress. & food limit. on larval popn. dens. depend.) 926–935; *Ocadia sinensis* (struct., dens.) 944–952; *Chelonia mydas* (nesting popn. sources of foraging popn.) 1064–1069; *Gopherus polyphemus* (valid. of age & growth history from scute annuli for popn. struct. info.) 1094–1100.

PREDATION, *Hemidactylium scutatum* (lack of anti-pred. defence during nest-guarding) 183–189; *Amia calva, Notemigonus crysoleucas* (nest assoc. btwn. pred. & prey spp.) 220–221; *Cnemidophorus (gularis, laredoensis* [parthenogen. sp.]) (compare pred. escape btwn. spp.) 240–243; *Uta stansburiana* (sex. dimorph. in tail autot.) 376–382; *Micropterus salmoides* (pred.), *Chrysemys picta* (prey), *Chelydra serpentina* (prey) (higher survival for conspic. than cryptic noxious prey) 383–390; *Bitis caudalis* (prey in stom. conts., sex. dimorph. in prey taken) 391–401; *Ambystoma tigrinum* (hab. diffs. in pred. pressure) 402–410; *Nerodia sipedon* (prey size aff. body & head size) 423–429; *Bufo terrestris* (antipred. beh. of larvae to chem. stim.) 445–450; *Neusticurus (ecpleopus, juruazensis)* (prey type & size diffs. btwn. sympat. spp.) 570–582; *Plethodon cinereus* (lab exper., compet. for prey, large body size wins) 725–729; *Petrocephalus catostoma* (persist in hypoxic habs., escape pred.) 762–768; *Anolis carolinensis* (role of pred. avoid. in ontog. of microhab. use) 774–779; *Psammodromus algirus* (role in seas. & ontog. microhab. shifts) 780–786; *Xenopus laevis* (terrest. prey capture by aquat. frog) 787–791; *Ocadia sinensis* (spiders major preds. on turtle eggs!) 944–952; *Lachnolaimus maximus, Halichoeres (garnoti, bivittatus, maculipinna), Thalassoma bifasciatum* (prey type rel. to feeding beh., jaw morph.) 953–966; tetraodontiform fishes *(Monacanthus hispidus, Canthigaster rostrata, Diodon holocanthus),* non-tetraodontiform fishes *(Acanthurus chirurgus, Abudefduf saxatilis, Scarus coeruleus)* (vertebra # rel. to pred. escape response) 971–984; *Notophthalmus viridescens louisianensis* (assoc. learning of pred. avoid.) 1027–1031; *Ambystoma tigrinum nebulosum* (allomet. diffs. btwn. cannib. & non-cannib. larval morphs.) 1089–1093.

REPRODUCTION, *Lacerta schreiberi* (egg # & size not correl., each rel. to environ. factors) 145–150; *Proceratophrys cururu* n. sp. (notes) 159–164; *Hemidactylium scutatum* (lack of anti-pred. defence during nest-guarding) 183–189; *Mantidactylus microtympanum* (female reprod. matur. later, greater longev.) 194–198; *Plethodon cinereus* (familiarity aff. intersex. territ. beh.) 205–208; neotropical cichlids (26 spp.) (egg size determ. htchlng. size) 209–213; *Plethodon jordani* (ctshp. beh. aff. by experimen. pherom. deliv.) 214–219; *Amia calva, Notemigonus crysoleucas* (nest assoc. btwn. pred. & prey spp.) 220–221; *Cyprinodon variegatus* (low salin. aff. growth & reprod.) 235–239; *Physalaemus pustulosus* (microhab. of nest plcmnt.) 250–251; *Dermochelys coriacea* (pivotal temp. for sex determ.) 291–300; turtles (reprod. data in method appl. to conserv. mngment.) 367–375; *Uta stansburiana* (repro. beh. rel. to sex. dimorph. in tail autot.) 376–382; *Bitis caudalis* (seas., age & size at matur., fec. diffs. btwn. habs.) 391–401; *Crotalus horridus* (gravid fem. dispersal & mate search rel. to gene flow) 411–422; *Acanthochromis polyacanthus* ("glancing" beh. in offspring-parent interact.) 493–496; *Bombina variegata* (breeding site fidel., gender diffs.) 497–500; *Hybognathus (amarus,*

placitus), Macrhybopsis aestivalis, Notropis (girardi, jemezanus, simus pecosensis, stramineus) (spawning beh. & egg type rel. to popn. declines in dammed rivers) 559–569; *Alligator mississippiensis* (microsat. loci useful in reprod. ecol.) 591–601; *Mabuya frenata* (fecund., seas., fat body cycles, vivip. lizard) 612–619; *Gopherus agassizii* (long-term sperm storage in females) 702–705; *Lythrypnus (dalli, nesiotes, phorellus, spilus, zebra)* (simultaneous hermaph.) 720–724; *Phyllodactylus marmoratus* (clutch size [1–2 eggs] not rel. to matern. body size) 747–752; *Rana kuhlii* (mating beh. & spawning) 769–773; *Takydromus hsuehshanensis* (seas. & fecund., rel. to body size & fat; compare to sympat. & congener lizards) 866–873; *Acanthurus nigrofuscus* (daily spawning migr., cues in starting migr. & finding sites) 893–905; *Ocadia sinensis* (seas., fecund., nesting) 944–952; *Psyllophryne hermogenesi* n. sp. (tiny frog, one ovum) 985–987; *Lepidomeda vittata* (seas., temperature var. eff., spawning beh., eggs, larvae) 1010–1015; *Menetia greyii* (met. rate in tiny amniote eggs compared to sim. size anamniote eggs) 1016–1020; *Betta splendens* (histol. of hatching glands) 1021–1026; *Petromyzon marinus* (potent. fecund. in landlocked larvae) 1070–1075; *Eleutherodactylus podiciferus* (female reciprocal calling) 1076–1080; *Rivulus marmoratus* (primitive sperm struct. in self fert. hermaphr.) 1101–1106.

RESPIRATION, Loricariidae, Scoloplacidae (digest. tract modifs. for air-breathing) 663–675; *Petrocephalus catostoma* (high hypoxia toler., aquat. surface resp.) 762–768; *Menetia greyii* (rate much higher in tiny amniote eggs compared to sim. size anamniote eggs) 1016–1020; *Varanus mertensi* (met. rate, respir. water loss) 1054–1059.

SALINITY, *Uta tumidarostra* (intertidal lizard secretes NaCl) 231–234; *Cyprinodon variegatus* (low salin. aff. growth & reprod.) 235–239.

SALT GLAND, *Uta tumidarostra* (intertidal lizard secretes NaCl) 231–234.

SEX, *Dermochelys coriacea* (ratios rel. to incub. temp.) 291–300; *Ocadia sinensis* (ratio has more males) 944–952; *Petromyzon marinus* (extended sex. indeterminacy in landlocked larvae) 1070–1075; *Lepidochelys olivacea* (high pivotal temp. for sex determ.) 1086–1088.

SEXUAL DIMORPHISM, *Crotalus atrox* (ontog. of size dimorph.) 40–47; *Diploglossus (delasaqra, nigropunctatus, garridoi* n. sp.) (ovolo, only males, expanded scale at cloacal margin) 97–103; *Uta stansburiana* (tail autotomy) 376–382; *Bitis caudalis* (body size & shape) 391–401; *Anolis* (52 spp.) (body size dimorph. not rel. to dewlap size) 430–438; *Neusticurus (ecpleopus, juruazensis)* (size dimorph. in *N. juruazensis*, color dimorph. in both spp.) 570–582; *Rhynchactis (leptonema, macrothrix* n. sp., *microthrix* n. sp.) (extreme, males only classifiable to genus) 583–590; *Mabuya frenata* (body size) 612–619; *Apteronotus (hasemani, bonapartii)* (in *A. hasemani* but not *A. bonapartii*) 730–735; *Syacium maculiferum* (in pect. fin length) 753–758; *Gasterosteus aculeatus* (in skull shape rel. to trophic diffs.) 827–838; *Ocadia sinensis* (females larger, plastron shape diff.) 944–952.

SIZE, *Cnemidophorus (tigris punctilinealis, t. marmoratus, t. punctilinealis* × *t. marmoratus)* (locom. speed & endur. rel. to body mass) 1–13; *Chelonia mydas* (invalid. of humerus growth marks for ageing) 23–30; *Crotalus atrox* (ontog. of sex. size dimorph., rattle charcs.) 40–47; *Labroides dimidiatus* (of client not rel. to cleaning by cleaner) 120–127; *Lacerta schreiberi* (egg size rel. to environ. factors, maximizing htchlng. size) 145–150; *Hemidactylium scutatum* (matern. anti-pred. defence rel. to egg # & mtern. body size) 183–189; neotropical cichlids (26 spp.) (egg size determ. htchlng. size) 209–213; *Thorius* (10 spp., 5 are n. spp.) (biol. of tiny salamanders) 312–345; *Bitis caudalis* (body size & shape diffs. btwn. habs.) 391–401; *Nerodia sipedon* (prey size aff. body & head size) 423–429; *Anolis* (52 spp.) (factors in dewlap size) 430–438; thamnophiine snakes (4 gen., 10 spp.) (size of neonate & embryonic growth rate diffs.) 549–558; *Neusticurus (ecpleopus, juruazensis)* (size diffs. btwn. sympat. spp., sex. size dimorph. in *N. juruazensis*) 570–582; *Mabuya frenata* (size at matur., clutch size rel. to body size, sex. dimorph.) 612–619; *Plethodon cinereus* (lab exper., compet. for prey, large body size wins) 725–729; *Phyllodactylus marmoratus* (clutch size [1–2 eggs] not rel. to matern. body size) 747–752; *Anolis carolinensis* (ontog. of microhab. use rel. to body size) 774–779; *Takydromus hsuehshanensis* (body size & mass rel. to repro.) 866–873; *Ocadia sinensis* (body size, sex. dimorph., size at sex. matur.) 944–952; *Lachnolaimus maximus, Halichoeres (garnoti, bivittatus, maculipinna), Thalassoma bifasciatum* (import. in jaw morph. rel. to diet) 953–966; *Psyllophryne (hermogenesi* n. sp., *didactyla)* (tiny frogs) 985–987; *Lepidomeda vittata* (at sex. matur., larvae, eggs) 1010–1015; *Menetia greyii* (met. rate in tiny amniote eggs compared to sim. size anamniote eggs) 1016–1020; *Ambystoma tigrinum nebulosum* (head & body size allomet. diffs. btwn. cannib. & non-cannib. larval morphs.) 1089–1093.

SKIN, *Blepsias bilobus* (skin surface shedding in a fish) 743–745.

SOUND, *Chaetodon (octofasciatus, sedentarius, kleinii)* (sound sensit. in lat. line, unique to genus) 1032–1036.

SURVIVAL, *Rana catesbeiana* (of tdpls. in polluted hab. reduced) 244–246; *Micropterus salmoides (pred.), Chrysemys picta* (prey), *Chelydra serpentina* (prey) (higher surv. for conspic. than cryptic noxious prey) 383–390; *Noturus lachneri* (high mortal. in seas. stream-drying hab.) 874–882; *Catostomus latipinnis, Catostomus latipinnis* × *Xyrauchen texanus* (popn. estim. & surv. of "sp. of concern", hybrid abund.) 915–925; *Ambystoma maculatum* (eff. of aggress. & food limit. on larval dens. depend. surv.) 926–935.

SYMBIOSIS, *Labroides dimidiatus* (attempt to test for mutual benefit in cleaning symb.) 120–127.

SYSTEMATICS, *Lythrurus (snelsoni, atrapiculus, bellus, roseipinnis, umbratilis, fumeus, ardens, lirus)* (phyl.

anal., cyt. b seqs. data) 14–22; *Oncorhynchus (gilae, apache, mykiss, clarki)* (phyl. anal., mtDNA data) 31–39; *Epalzeorhynchos (kalopterus, frenatus, bicolor, munensis, bicornis)* (phyl. anal., osteol. & morph. charcs.) 48–63; Dactyloscopidae (type spp. of 8 of the 9 gen.) (phyl. anal., osteol. charcs., lip fimbriae) 76–96; *Diploglossus (delasagra, nigropunctatus, garridoi n.* sp.) (n. sp., subsp. elev.) 97–103; *Naso* (all 15 spp.) (phyl. anal., muscle & gut charcs.) 104–113; *Mabuya lavarambo* n. sp. (notes on rels. to congeners) 114–119; *Pseudoxyrhopus analabe* n. sp. (n. sp. compar. to 9 Madagascar congeners) 128–132; *Galeus springeri* n. sp. (n. sp., phyl. notes on rels. to *G. arae antillensis)* 151–158; *Gerres erythrourus* = *G. abbreviatus* (previous valid name, redescript., notes on rels.) 165–172; *Salamandra (salamandra longirostris, s. morenica, s. crespoi)* (phyl. anal., mtDNA evid. for spec. stat. of *S. s. longirostris)* 173–176; *Mormyrus kingsleyi* = *Brienomyrus kingsleyi* (genus transfer, osteol., electric organ evid.) 199–204; Rajidae (all gen. & subgen., 165 spp.) (phyl. anal. of fam.; squam., osteol. & electrocyte charcs., subgen. elevated to gen.) 271–290; *Thorius* (10 spp., 5 are n. spp.) (morph. & alloz. phyl. anal. of tiny salamanders, key to spp.) 312–345; *Sceloporus variabilis* spp. group (7 spp.) (phyl. anal., isozyme data) 354–366; *Cnemaspis chanthaburiensis* n. sp. (n. sp., no info. on gen. rels.) 439–444; *Pseudocalliurichthys ikedai* n. sp. (n. sp., compare to congeners) 451–455; *Paralichthodes algoensis* (phyl. anal., evid. for family status) 477–481; *Hoplias malabaricus* (syntopic cryptic spp., diff. chrom. #s) 485–487; *Rhynchactis (leptonema, macrothrix* n. sp., *microthrix* n. sp.) (rediagn. gen., n. spp., key to spp.) 583–590; *Pogonopoma wertheimeri, Pogonopomoides parahybae, Pseudorinelepis* (4 spp.), *Rhinelepis* (3 spp:) (phyl. anal., osteol. & dig. tract morph. data, rediagnose genera) 620–636; *Japalura (luei* n. sp., *brevipes, makii)* (n. sp., compare to congeners, n. sp. kary. unique) 649–656; *Eustomias (Dinematochirus) (achirus, aequatorialis* n. sp., *intermedius* n. sp., *insularum* n. sp., *tomentosis* n. sp., *woollardi* n. sp.) (n. spp. based on small barbel morph. diffs.) 676–686; *Oxyurichthys (paulae* n. sp., *takaqi* n. sp., *heisei* n. sp.) (n. spp., color & surface morph. diffs.) 687–695; *Halophryne (hutchinsi* n. sp., *diemensis)* (n. sp. prev. considered *H. diemensis)* 696–701; *Syacium maculiferum* (first specimens ident. since 1899, redescrip., compare to rels.) 753–758; *Tropidurus spinulosus* complex (11 popns.) (phyl. anal., mtDNA evid., raise subsp. to sp. level, evid. for possible cryptic spp.) 839–851; *Cyprinodon eximius* complex (8 spp.) (phyl. anal., allozyme data) 852–865; *Abronia (10 spp.)* (phyl. anal., mtDNA data, subgen. *Auriculabronia* monophyly, biogeogr. info.) 883–892; *Plethodon ainsworthi* n. sp. (n. sp., no closely rel. congeners, only 2 known specimens) 967–970; *Psyllophryne (hermogenesi* n. sp., *didactyla)* (n. sp., only 2 spp. in genus) 985–987; *Rhamdia macuspanensis* n. sp. (n. sp. cave-catfish, rels. to congeners) 998–1004; *Pogonophryne cerebropogon* n. sp. (n. sp., compared to *P. macropogon)* 1005–1009; *Podarcis (hispanica atrata, h. hispanica)* (phyl. anal., mtDNA evid. for sp. status of *P. h. atrata)* 1037–1040; Pseudochromidae (Congrogadinae) (homology of ant. verts., ribs & dorsal pterygiophores & rays, import. as phyl. charcs.) 1041–1045; *Eurycea nana* (phyl. anal., alloz. & morph. evid. for sp. status of *E. nana)* 1046–1049; *Rhinichthys bowersi* (evid. *R. bowersi* is F1 intergeneric hybrid, an invalid sp.) 1081–1085; teleosts (fossil & recent) (basal teleost fossil influence on higher-level class.) 1107–1113.

TEMPERATURE, *Lacerta schreiberi* (cold environ. rel. to maximizing htchlng. size) 145–150; *Etheostoma spectabile* (diffs. in temp. pref. of dam tailwater & non-tailwater popns.) 226–230; *Dermochelys coriacea* (pivotal temp. for sex determ.) 291–300; *Neusticurus (ecpleopus, juruazensis)* (microhab. & body temp. sim. btwn. sympat. spp.) 570–582; *Gehyra (punctata, variegata), Oedura (marmorata, reticulata), Christinus marmoratus, Nephrurus stellatus* (no diel var. in preferred body temp. in noct. lizards) 736–742; *Lepidomeda vittata* (yr. to yr. temp. var. strongly aff. repro. in threatened sp.) 1010–1015; *Varanus mertensi* (body temp. aff. water loss) 1054–1059; *Lepidochelys olivacea* (high pivotal temp. for sex determ.) 1086–1088.

VISION, *Brevoortia tyrannus, Harengula jaguana, Anchoa mitchilli* (hab. shifts rel. to retinal devel.) 133–144; *Rana cascadae* (ultraviolet light damage to high altitude frog's retina) 906–914; *Sciaenops ocellatus* (dev. of vis. sens. in larvae) 936–943.

VOMERONASAL ORGAN, *Plethodon jordani* (ctshp. beh. aff. by experimen. pherom. deliv.) 214–219.

WATER BALANCE, *Varanus mertensi* (in semiaquat. goanna) 1054–1059.

WEBERIAN APPARATUS, *Corydoras paleatus* (ontogeny, compare to ictalurids) 301–311.